



Marked up Version of SEQUENCE LISTING section



SEQUENCE LISTING

<110> HUANG, QIHONG
REED, JOHN C.
DEVERAUX, QUINN L.
MAEDA, SUSUMU

<120> INHIBITOR OF APOPTOSIS PROTEINS AND NUCLEIC ACIDS AND
METHODS FOR MAKING AND USING THEM

<130> 087102/027 2537

<140> 10/041,859
<141> 2002-01-07

<150> 60/260,478
<151> 2001-01-08

<160> 27

<170> PatentIn Ver. 3.3

<210> 1
<211> 3773
<212> DNA
<213> Bombyx mori

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Glu Ala Thr Ala Ile Ser Ala Ser Glu Glu Glu Gln Ala Ala Thr Asn			
265	270	275	
gat tcg act aag aac gtc gcc caa gag ggc gag aaa cat ttg gat gac 3617			
Asp Ser Thr Lys Asn Val Ala Gln Glu Gly Glu Lys His Leu Asp Asp			
280	285	290	295
tct aaa ata tgt aaa ata tgt tat tcc gag gag cgt aac gtg tgc ttc 3665			
Ser Lys Ile Cys Lys Ile Cys Tyr Ser Glu Glu Arg Asn Val Cys Phe			
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gtg ccg tgc ggc cac gtg gtg gcg tgc gcc aag tgc gcg ctg tcg acg 3713			
Val Pro Cys Gly His Val Val Ala Cys Ala Lys Cys Ala Leu Ser Thr			
315	320	325	
gac aag tgc ccg atg tgt cgc agg acg ttc acg aat gcg gtg cgg ctc 3761			
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tac ttc tcg tga 3773			
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<213> Bombyx mori			
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Pro Ser Ser Ser Ala Asp Lys Thr Asp Asn His Asp Thr Phe Asn Phe			
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65	70	75	80
Phe Asp Gln Trp Pro Val Thr Phe Leu Thr Pro Glu Gln Leu Ala Arg			
85	90	95	
Asn Gly Phe Tyr Tyr Leu Gly Arg Gly Asp Glu Val Cys Cys Ala Phe			
100	105	110	
Cys Lys Val Glu Ile Met Arg Trp Val Glu Gly Asp Asp Pro Ala Ala			
115	120	125	

Asp His Arg Arg Trp Ala Pro Gln Cys Pro Phe Val Arg Lys Gln Met
130 135 140

Tyr Ala Asn Ala Gly Gly Glu Ala Thr Ala Val Gly Arg Asp Glu Cys
145 150 155 160

Gly Ala Ser Ala Ala Thr Gln Pro Pro Arg Met Pro Gly Pro Val His
165 170 175

Ala Arg Tyr Ser Thr Glu Ala Ala Arg Leu Ala Thr Phe Lys Asp Trp
180 185 190

Pro Arg Arg Met Arg Gln Lys Pro Glu Glu Leu Ala Glu Ala Gly Phe
195 200 205

Phe Tyr Thr Gly Gln Gly Asp Lys Thr Lys Cys Phe Tyr Cys Asp Gly
210 215 220

Gly Leu Lys Asp Trp Glu Ser Asp Asp Val Pro Trp Glu Gln His Ala
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Arg Trp Phe Asp Arg Cys Ala Tyr Val Gln Leu Val Lys Gly Arg Asp
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Tyr Ile Gln Lys Val Lys Ser Glu Ala Thr Ala Ile Ser Ala Ser Glu
260 265 270

Glu Glu Gln Ala Ala Thr Asn Asp Ser Thr Lys Asn Val Ala Gln Glu
275 280 285

Gly Glu Lys His Leu Asp Asp Ser Lys Ile Cys Lys Ile Cys Tyr Ser
290 295 300

Glu Glu Arg Asn Val Cys Phe Val Pro Cys Gly His Val Val Ala Cys
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Ala Lys Cys Ala Leu Ser Thr Asp Lys Cys Pro Met Cys Arg Arg Thr
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Phe Thr Asn Ala Val Arg Leu Tyr Phe Ser
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<212> DNA
<213> Artificial Sequence

<220>
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<223> a, c, g or t

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<223> a, c, g or t

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<223> a, c, g or t

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20

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<210> 4
<211> 17
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

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<223> a, c, g or t

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17

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<210> 5
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
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18

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<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic primer
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17

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<213> Artificial Sequence

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<220>
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<210> 8
<211> 172
<212> PRT
<213> Bombyx mori

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20 25 30

Asp Glu Val Cys Cys Ala Phe Cys Lys Val Glu Ile Met Arg Trp Val
35 40 45

Glu Gly Asp Asp Pro Ala Ala Asp His Arg Arg Trp Ala Pro Gln Cys
50 55 60

Pro Phe Val Glu Ala Ala Arg Leu Ala Thr Phe Lys Asp Trp Pro Arg

65	70	75	80
Arg Met Arg Gln Lys Pro Glu Glu Leu Ala Glu Ala Gly Phe Phe Tyr			
85		90	95
Thr Gly Gln Gly Asp Lys Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu			
100		105	110
Lys Asp Trp Glu Ser Asp Asp Val Pro Trp Glu Gln His Ala Arg Trp			
115		120	125
Phe Asp Arg Cys Ala Tyr Val Leu Cys Lys Ile Cys Tyr Ser Glu Glu			
130		135	140
Arg Asn Val Cys Phe Val Pro Cys Gly His Val Val Ala Cys Ala Lys			
145		150	155
Cys Ala Leu Ser Thr Asp Lys Cys Pro Met Cys Arg			
165		170	
<210> 9			
<211> 172			
<212> PRT			
<213> Spodoptera frugiperda			
<400> 9			
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Asp Glu Ala Arg Cys Ala Phe Cys Lys Val Glu Ile Met Arg Trp Val			
35	40	45	
Glu Gly Asp Asp Pro Ala Lys Asp His Gln Arg Trp Ala Pro Gln Cys			
50	55	60	
Pro Phe Val Glu Ala Ala Arg Leu Arg Ser Phe Lys Asp Trp Pro Arg			
65	70	75	80
Cys Met Arg Gln Lys Pro Glu Glu Leu Ala Glu Ala Gly Phe Phe Tyr			
85		90	95
Thr Gly Gln Gly Asp Lys Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu			
100		105	110
Lys Asp Trp Glu Asn His Asp Val Pro Trp Glu Gln His Ala Arg Trp			
115		120	125
Phe Asp Arg Cys Ala Tyr Val Leu Cys Lys Ile Cys Tyr Ala Glu Glu			
130		135	140
Arg Asn Val Cys Phe Val Pro Cys Gly His Val Val Ala Cys Ala Lys			
145		150	155
Cys Ala Leu Ala Ala Asp Lys Cys Pro Met Cys Arg			
165		170	

<210> 10
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<212> PRT
<213> Trichoplusia ni

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35 40 45
Glu Gly Asp Asp Pro Ala Lys Asp His Gln Arg Trp Ala Pro Gln Cys
50 55 60
Pro Phe Val Glu Ala Ala Arg Leu Arg Ser Phe Lys Asp Trp Pro Arg
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Cys Met Arg Gln Lys Pro Glu Glu Leu Ala Glu Ala Gly Phe Phe Tyr
85 90 95
Thr Gly Gln Gly Asp Lys Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu
100 105 110
Lys Asp Trp Glu Asn Asp Asp Val Pro Trp Glu Gln His Ala Arg Trp
115 120 125
Phe Asp Arg Cys Ala Tyr Val Leu Cys Lys Ile Cys Phe Ala Glu Glu
130 135 140
Arg Asn Val Cys Phe Val Pro Cys Gly His Val Val Ala Cys Ala Lys
145 150 155 160
Cys Ala Leu Ala Ala Asp Lys Cys Pro Met Cys Arg
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<210> 11
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<212> PRT
<213> Cydia pomonella granulovirus

<400> 11
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20 25 30
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35 40 45
Glu Gly Glu Asp Pro Ala Ala Asp His Lys Lys Trp Ala Pro Gln Cys
50 55 60
Pro Phe Val Glu Ala Ala Arg Val Lys Ser Phe His Asn Trp Pro Arg
65 70 75 80

Cys Met Lys Gln Arg Pro Glu Gln Met Ala Asp Ala Gly Phe Phe Tyr
85 90 95

Thr Gly Tyr Gly Asp Asn Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu
100 105 110

Lys Asp Trp Glu Pro Glu Asp Val Pro Trp Glu Gln His Val Arg Trp
115 120 125

Phe Asp Arg Cys Ala Tyr Val Leu Cys Lys Ile Cys Tyr Val Glu Glu
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Cys Ile Val Cys Phe Val Pro Cys Gly His Val Val Ala Cys Ala Lys
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Cys Ala Leu Ser Val Asp Lys Cys Pro Met Cys Arg
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<210> 12

<211> 172

<212> PRT

<213> Orgyia pseudotsugata

<400> 12

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20 25 30

Asp Glu Val Arg Cys Ala Phe Cys Lys Val Glu Ile Thr Asn Trp Val
35 40 45

Arg Gly Asp Asp Pro Glu Thr Asp His Lys Arg Trp Ala Pro Gln Cys
50 55 60

Pro Phe Val Glu Ala Ala Arg Leu Arg Thr Phe Ala Glu Trp Pro Arg
65 70 75 80

Gly Leu Lys Gln Arg Pro Glu Glu Leu Ala Glu Ala Gly Phe Phe Tyr
85 90 95

Thr Gly Gln Gly Asp Lys Thr Arg Cys Phe Cys Cys Asp Gly Gly Leu
100 105 110

Lys Asp Trp Glu Pro Asp Asp Ala Pro Trp Gln Gln His Ala Arg Trp
115 120 125

Tyr Asp Arg Cys Glu Tyr Val Leu Cys Lys Ile Cys Leu Gly Ala Glu
130 135 140

Lys Thr Val Cys Phe Val Pro Cys Gly His Val Val Ala Cys Gly Lys
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Cys Ala Ala Gly Val Thr Thr Cys Pro Val Cys Arg
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<210> 13

<211> 172

<212> PRT

<213> Drosophila melanogaster

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20 25 30

Asp Lys Val Lys Cys Phe Phe Cys Gly Val Glu Ile Gly Cys Trp Glu
35 40 45

Gln Glu Asp Gln Pro Val Pro Glu His Gln Arg Trp Ser Pro Asn Cys
50 55 60

Pro Leu Leu Glu Thr Ala Arg Leu Arg Thr Phe Glu Ala Trp Pro Arg
65 70 75 80

Asn Leu Lys Gln Lys Pro His Gln Leu Ala Glu Ala Gly Phe Phe Tyr
85 90 95

Thr Gly Val Gly Asp Arg Val Arg Cys Phe Ser Cys Gly Gly Leu
100 105 110

Met Asp Trp Asn Asp Asn Asp Glu Pro Trp Glu Gln His Ala Leu Trp
115 120 125

Leu Ser Gln Cys Arg Phe Val Leu Cys Lys Ile Cys Tyr Gly Ala Glu
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Tyr Asn Thr Ala Phe Leu Pro Cys Gly His Val Val Ala Cys Ala Lys
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<210> 14

<211> 68

<212> PRT

<213> Bombyx mori

<400> 14

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20 25 30

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35 40 45

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Cys Ala Tyr Val
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<210> 15

<211> 68

<212> PRT

<213> Spodoptera frugiperda

<400> 15

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20 25 30

Gly Asp Lys Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu Lys Asp Trp
35 40 45

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50 55 60

Cys Ala Tyr Val
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<210> 16

<211> 68

<212> PRT

<213> Trichoplusia ni

<400> 16

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20 25 30

Gly Asp Lys Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu Lys Asp Trp
35 40 45

Glu Asn Asp Asp Val Pro Trp Glu Gln His Ala Arg Trp Phe Asp Arg
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Cys Ala Tyr Val
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<210> 17

<211> 68

<212> PRT

<213> Cydia pomonella granulovirus

<400> 17

Glu Ala Ala Arg Val Lys Ser Phe His Asn Trp Pro Arg Cys Met Lys
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20 25 30

Gly Asp Asn Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu Lys Asp Trp
35 40 45

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50 55 60

Cys Ala Tyr Val
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<210> 18
<211> 68
<212> PRT
<213> Orgyia pseudotsugata

<400> 18
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1 5 10 15

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20 25 30

Gly Asp Lys Thr Arg Cys Phe Cys Cys Asp Gly Gly Leu Lys Asp Trp
35 40 45

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Cys Glu Tyr Val
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<213> Drosophila melanogaster

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Gln Lys Pro His Gln Leu Ala Glu Ala Gly Phe Phe Tyr Thr Gly Val
20 25 30

Gly Asp Arg Val Arg Cys Phe Ser Cys Gly Gly Leu Met Asp Trp
35 40 45

Asn Asp Asn Asp Glu Pro Trp Glu Gln His Ala Leu Trp Leu Ser Gln
50 55 60

Cys Arg Phe Val
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<210> 20
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<213> Bombyx mori

<400> 20
Leu Cys Lys Ile Cys Tyr Ser Glu Glu Arg Asn Val Cys Phe Val Pro
1 5 10 15

Cys Gly His Val Val Ala Cys Ala Lys Cys Ala Leu Ser Thr Asp Lys
20 25 30

Cys Pro Met Cys Arg

<210> 21
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<212> PRT
<213> *Spodoptera frugiperda*

<400> 21
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Cys Gly His Val Val Ala Cys Ala Lys Cys Ala Leu Ala Ala Asp Lys
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Cys Pro Met Cys Arg
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<210> 22
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<212> PRT
<213> *Trichoplusia ni*

<400> 22
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Cys Pro Met Cys Arg
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<213> *Cydia pomonella granulovirus*

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Cys Pro Met Cys Arg
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<210> 24
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<213> *Orgyia pseudotsugata*

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25

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Cys Pro Val Cys Arg
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<210> 25
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<213> Drosophila melanogaster

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Cys Pro Leu Cys Arg
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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic fluorogenic caspase-9 substrate

<400> 26

Leu Glu His Asp
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<220>
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<400> 27

Asp Glu Val Asp
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